

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

IN RE APPLICATION OF: MOSING, DONALD E.

APPLICATION No.: 10/027,502

FILED: NOVEMBER 27, 2001

FOR: SLIP GROOVE GRIPPING DIE

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GROUP No.: 3679

EXAMINER: DANIEL P. STODOLA

DOCKET No.: FRANKS-086

AMENDED BRIEF TO BOARD OF PATENT APPEALS AND INTERFERENCES UNDER 37 CFR 41.37

HON. COMMISSIONER OF PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

Dear Sir:

REMARKS

Responsive to the Office Communication dated April 9, 2008, please enter the enclosed, revised Appeal Brief. Applicant has included a request for a one-month extension of time under 37 CFR 1.136, and the associated fee, concurrent with this Appeal Brief.

It is Applicant's belief that a concise explanation of the subject matter defined in each of the independent claims, referred to by specification page, line number, and drawings, is now provided.

Further, Applicant has removed all claims not under appeal from the Claims Appendix.

Respectfully submitted,

December 1, 2008

Date

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1. **Real Party In Interest**

The real party in interest is Frank's Casing Crew and Rental Tools, Inc.

2. **Related Appeals and late references**

None

3. **Status of Claims**

The following set of claims 1-10, 12-16, 19 and 20, were all finally rejected and are currently on appeal.

Claims 1-10, 12-16, 19, and 20 are rejected.

Claims 11 and 17-18 have been cancelled.

4. **Status of Amendments**

All amendments to the claims have already been entered by the Examiner. No amendments are currently pending.

5. Summary of Claimed Subject Matter of Independent Claims 1, 5, 12, 19 and 20.

CLAIM 1

1. A die insert for use in die insert confining grooves in slips for use in pipe string handling apparatus, the die insert comprising:

a) a front face with pipe gripping teeth and a back face being generally parallel to said front face; and

b) said back face including textured relief for engaging the slip.

Analysis under 37 CFR 41.37 (c)(1)(v)

Claim 1 calls for:

a die insert - Referenced in FIGs. 1 through 4 as reference numeral 1. Referenced in FIGs. 5 through 8 as reference numeral 4. See Page 7 of the original filed specification, Lines 2-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

a front face - Referenced in FIG. 1 and FIG. 5, as reference numeral 2. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24.

the front face with pipe gripping teeth - See FIG. 1 and FIG. 5. The front face, denoted as reference numeral 2, is shown having pipe gripping teeth thereon. The teeth are unnumbered. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24.

a back face - Referenced in FIGs. 1 through 3 as reference numeral 3. Depicted in FIG. 4, but not numbered. Referenced in FIGs. 5 through 8 as reference numeral 5. See Page 7 of the original filed specification, Lines 5-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

the back face being generally parallel to said front face - See FIG. 1, in which the front face, denoted as reference numeral 2, is generally parallel to the back face, denoted as reference numeral 3. Also see FIG. 5, in which the front face, denoted as reference numeral 2, is generally parallel to the back face, denoted as reference numeral 5. See Page 7 of the original filed specification, Lines 3-7 and Page 8, Lines 21-24.

said back face including textured relief - FIGs. 1 through 4, depict the back face, denoted as reference numeral 3, having a textured surface. Specifically, FIG. 3 contains surfaces 3c and 3d, separated by a depth d1, with the surfaces 3c and 3d having a face 3d therebetween. FIG. 4

depicts the surface having a groove 3a and a projection 3b. See Page 7 of the original filed specification, Lines 5-26 and Page 8, Lines 1-16. Also, FIGs. 5 through 8 depict the back face, denoted as reference numeral 5, having a textured surface. Specifically, FIG. 7 contains grooves 6a and 6b, separated by a depth 6c, defining a pattern of lands 6d. FIG. 8 depicts the back face 5 having points 7c above a leader 7b. See Page 8, Lines 21-27 and Page 9, Lines 1-17.

CLAIM 5

5. A die insert for use in a pipe string handling apparatus having first and second faces, said first and second faces being generally parallel to each other, said die insert comprising:

- a) said first faces textured with projecting teeth for gripping pipe surfaces;
- and
- b) the second face textured with surface depressions forming indicia to reduce the surface area in contact with a mating surface of die insert carrying slips such that more than a selected normal loading of the die insert will coin an impression of the indicia of the textured surface of the die insert into the mating surface of the related die insert carrying slip, for the purpose of reducing the tendency of the die insert to slide on the slip when the die insert is carrying a substantial payload.

Analysis under 37 CFR 41.37 (c)(1)(v)

Claim 5 calls for:

a die insert – Referenced in FIGs. 1 through 4 as reference numeral 1. Referenced in FIGs. 5 through 8 as reference numeral 4. See Page 7 of the original filed specification, Lines 2-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

the die insert having first and second faces – A first face is referenced in FIG. 1 and FIG. 5, as reference numeral 2. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24. A second face is referenced in FIGs. 1 through 3 as reference numeral 3, depicted in FIG. 4, but not numbered, and referenced in FIGs. 5 through 8 as reference numeral 5. See Page 7 of the original filed specification, Lines 5-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

said first and second faces being generally parallel to each other - See FIG. 1, in which the first face, denoted as reference numeral 2, is generally parallel to the second face, denoted as reference numeral 3. Also see FIG. 5, in which the first face, denoted as reference numeral 2, is generally parallel to the second face, denoted as reference numeral 5. See Page 7 of the original filed specification, Lines 3-7 and Page 8, Lines 21-24.

said first faces textured with projecting teeth - See FIG. 1 and FIG. 5. The first face, denoted as reference numeral 2, is shown having projecting teeth thereon. The teeth are unnumbered. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24.

the second face textured with surface depressions forming indicia - See FIGs. 1 through 3, which depict the second face, denoted as reference numeral 3, having depressions thereon, forming indicia. Also see FIGs. 5 through 7, which depict the second face, denoted as reference numeral 5, having depressions thereon, forming indicia. Specifically, FIG. 3 depicts surfaces 3c and 3d separated by a depth d1. FIG. 7 depicts grooves 6a and 6b, separated by a depth 6c, defining a pattern of lands 6d. See Page 7 of the original filed specification, Lines 5-26, Page 8, Lines 1-7 and 21-27, and Page 9, Lines 1-8.

to reduce the surface area in contact with a mating surface of die insert carrying slips such that more than a selected normal loading of the die insert will coin an impression of the indicia of the textured surface of the die insert into the mating surface of the related die insert carrying slip - See FIG. 1 and Page 7, Lines 7-10, describing that the force that urges the insert into the plane of the drawing forces the textured surface 3 against the opposing, softer slip surface, upon which the raised surfaces of the insert are impressed. Also see Abstract.

CLAIM 12

12. A die insert for use in a pipe handling apparatus, having first and second faces, said first and second being generally parallel with respect of each other, said die insert comprising;

- a) said first face textured with projecting teeth for gripping pipe surfaces; and
- b) the second face textured with surface depressions created to displace metal upward in the vicinity of the depression to present a small elevated surface accumulation of such

limited effective collective load bearing area that the raised metal will be imbedded into a surface of insert supporting surfaces of a die carrying slip, when subjected to a preselected amount of force substantially perpendicular to said second face, to reduce the tendency for the insert to slide on the insert support surfaces and create indicia on the insert support surfaces.

Analysis under 37 CFR 41.37 (c)(1)(v)

Claim 12 calls for:

a die insert – Referenced in FIGs. 1 through 4 as reference numeral 1. Referenced in FIGs. 5 through 8 as reference numeral 4. See Page 7 of the original filed specification, Lines 2-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

the die insert having first and second faces – A first face is referenced in FIG. 1 and FIG. 5, as reference numeral 2. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24. A second face is referenced in FIGs. 1 through 3 as reference numeral 3, depicted in FIG. 4, but not numbered, and referenced in FIGs. 5 through 8 as reference numeral 5. See Page 7 of the original filed specification, Lines 5-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

said first and second faces being generally parallel with respect to each other - See FIG. 1, in which the first face, denoted as reference numeral 2, is generally parallel to the second face, denoted as reference numeral 3. Also see FIG. 5, in which the first face, denoted as reference numeral 2, is generally parallel to the second face, denoted as reference numeral 5. See Page 7 of the original filed specification, Lines 3-7 and Page 8, Lines 21-24.

said first face textured with projecting teeth - See FIG. 1 and FIG. 5. The first face, denoted as reference numeral 2, is shown having projecting teeth thereon. The teeth are unnumbered. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24.

the second face textured with surface depressions - See FIGs. 1 through 3, which depict the second face, denoted as reference numeral 3, having depressions thereon. Also see FIGs. 5 through 7, which depict the second face, denoted as reference numeral 5, having depressions thereon. Specifically, FIG. 3 depicts surfaces 3c and 3d separated by a depth d1. FIG. 7 depicts

grooves 6a and 6b, separated by a depth 6c, defining a pattern of lands 6d. See Page 7 of the original filed specification, Lines 5-26, Page 8, Lines 1-7 and 21-27, and Page 9, Lines 1-8.

to displace metal upward in the vicinity of the depression to present a small elevated surface accumulation of such limited effective collective load bearing area that the raised metal will be imbedded into a surface of insert supporting surfaces of a die carrying slip – See FIG. 1 and Page 7, Lines 7-10, describing that the force that urges the insert into the plane of the drawing forces the textured surface 3 against the opposing, softer slip surface, upon which the raised surfaces of the insert are impressed. Also see Abstract.

when subjected to a preselected amount of force substantially perpendicular to said second face, to reduce the tendency for the insert to slide on the insert support surfaces and create indicia on the insert support surfaces - See FIG. 1 and Page 7, Lines 7-10, describing that the impression of the insert into the slip surface reduces the tendency of the insert to skid.

CLAIM 19

19. A die insert for use in a slip for use in a pipe handling apparatus, the die insert comprising:

a front face with a pipe gripping surface;

a back face, said back face is being generally parallel to said front face, wherein said back face contacts said slip; and

substantially uniform textured relief formed on a surface of the back face for forming and engaging impressions in the opposing surface of the slip when forced against the opposing surface to add skid resistance between the die insert and the opposing surface.

Analysis under 37 CFR 41.37 (c)(1)(v)

Claim 19 calls for:

a die insert – Referenced in FIGs. 1 through 4 as reference numeral 1. Referenced in FIGs. 5 through 8 as reference numeral 4. See Page 7 of the original filed specification, Lines 2-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

a front face - Referenced in FIG. 1 and FIG. 5, as reference numeral 2. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24.

the front face with a pipe gripping surface - See FIG. 1 and FIG. 5. The front face, denoted as reference numeral 2, is shown having pipe gripping teeth thereon. The teeth are unnumbered. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24.

a back face - Referenced in FIGs. 1 through 3 as reference numeral 3. Depicted in FIG. 4, but not numbered. Referenced in FIGs. 5 through 8 as reference numeral 5. See Page 7 of the original filed specification, Lines 5-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

the back face being generally parallel to said front face - See FIG. 1, in which the front face, denoted as reference numeral 2, is generally parallel to the back face, denoted as reference numeral 3. Also see FIG. 5, in which the front face, denoted as reference numeral 2, is generally parallel to the back face, denoted as reference numeral 5. See Page 7 of the original filed specification, Lines 3-7 and Page 8, Lines 21-24.

the back face contacts said slip - See FIG. 1, in which the back face, denoted as reference numeral 3, is shown in contact with a slip, labeled "SLIP." Also see Page 7 of the original specification, Lines 2-10.

substantially uniform textured relief formed on a surface of the back face - FIGs. 2 and 3, depict the back face, denoted as reference numeral 3, having uniform grooves, with protrusions therebetween. Also, FIGs. 6 through 8, depict the back face, denoted as reference numeral 5, having uniform grooves with landings therebetween, in FIGs. 6 and 7, and uniform points in FIG. 8. See Page 7 of the original specification, Lines 11-26, Page 8, Lines 1-7 and 25-27, and Page 9, Lines 1-15.

for forming and engaging impressions in the opposing surface of the slip when forced against the opposing surface to add skid resistance between the die insert and the opposing surface - See FIG. 1 and Page 7, Lines 7-10, describing that the force that urges the insert into the plane of the drawing forces the textured surface 3 against the opposing, softer slip surface, upon which the raised surfaces of the insert are impressed, reducing the tendency of the insert to skid. Also see Abstract.

CLAIM 20

20. A die insert for use in a pipe sting handling apparatus having first and second faces, said first and second faces being generally parallel to each other, said die insert comprising:

said first face being textured with projecting teeth for gripping pipe surfaces;

said second face having a surface area, wherein said surface area at least partially contacts a mating surface of a slip; and

the second face textured with surface depressions to reduce the surface area in contact with said mating surface of a slip such that the loading of the die insert will coin an impression of the textured surface of the die insert into the mating surface of the related slip, for the purpose of transferring the loading from the die insert to the slip.

Analysis under 37 CFR 41.37 (c)(1)(v)

Claim 20 calls for:

a die insert - Referenced in FIGs. 1 through 4 as reference numeral 1. Referenced in FIGs. 5 through 8 as reference numeral 4. See Page 7 of the original filed specification, Lines 2-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

the die insert having first and second faces – A first face is referenced in FIG. 1 and FIG. 5, as reference numeral 2. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24. A second face is referenced in FIGs. 1 through 3 as reference numeral 3, depicted in FIG. 4, but not numbered, and referenced in FIGs. 5 through 8 as reference numeral 5. See Page 7 of the original filed specification, Lines 5-20, Page 8, Lines 8-10 and 21-27, and Page 9, Lines 1-15.

said first and second faces being generally parallel with respect to each other - See FIG. 1, in which the first face, denoted as reference numeral 2, is generally parallel to the second face, denoted as reference numeral 3. Also see FIG. 5, in which the first face, denoted as reference numeral 2, is generally parallel to the second face, denoted as reference numeral 5. See Page 7 of the original filed specification, Lines 3-7 and Page 8, Lines 21-24.

said first face textured with projecting teeth - See FIG. 1 and FIG. 5. The first face, denoted as reference numeral 2, is shown having projecting teeth thereon. The teeth are unnumbered. See Page 7 of the original filed specification, Lines 3-9, and Page 8, Lines 21-24.

said second face having a surface area – FIGs. 1 through 3 depict the second face, denoted as reference numeral 3, having a surface area, which is not numbered. Specifically, FIG. 3 depicts surfaces 3c and 3d, separated by a depth d1, with the surface 3c having a width 2d1, and the surface 3d having a width 4d1 (determined by subtracting the width 2d1 from the indicated width 6d1). FIGs. 5 through 7 depict the second face denoted as reference numeral 5, having a surface area, which is not numbered. Specifically, FIG. 7 depicts surfaces 6a and 6b, separated by a depth 6c, to form lands of width 6d, with depressions of width 6e therebetween. See Page 7 of the original filed specification, Lines 5-26, Page 8, Lines 1-7 and 22-27, and Page 9, Lines 1-15.

said surface area at least partially contacts a mating surface of a slip - See FIG. 1, in which the surface of the second face, denoted as reference numeral 3, is shown in contact with the mating surface of a slip, labeled “SLIP.” Also see Page 7 of the original specification, Lines 2-10.

the second face textured with surface depressions –FIG. 3 depicts the second face, denoted as reference numeral 3, having surfaces 3c and 3d, separated by a depth d1, such that surface 3d forms a depression adjacent surface 3c. FIG. 7 depicts the second face, denoted as reference numeral 5, having surfaces 6a and 6b, separated by a depth 6c, such that surface 6a forms a depression adjacent surface 6b. See Page 7 of the original filed specification, Lines 19-26, Page 8, Lines 1-7, and Page 9, Lines 1-8.

to reduce the surface area in contact with said mating surface of a slip such that the loading of the die insert will coin an impression of the textured surface of the die insert into the mating surface of the related slip, for the purpose of transferring the loading from the die insert to the slip – See Page 5, Lines 4-7, describing the transfer of forces from the insert to the slip. See FIG. 1 and Page 7, Lines 7-10, describing that the force that urges the insert into the plane of the drawing forces the textured surface 3 against the opposing, softer slip surface, upon which the raised surfaces of the insert are impressed. Also see Abstract.

6. Grounds of Rejection To Be Reviewed On Appeal

a) Claims 1, 3-5, 8-10, 12, 15-16, 19 and 20, have been rejected under 35 USC 102 (b) as being anticipated by U.S. Patent No. 4,678,209 to Guice (the '209 patent). Please see Exhibit A.

b) Claims 2, 6, 7, 13 and 14 have been rejected under 35 USC 103 (a) as being unpatentable over U.S. Patent No. 4,678,209 to Guice (the '209 patent) in view of U.S. Patent No. 5,971,086 to Bee, et al (the '086 patent). Please see Exhibit B.

7. Argument

Claim Rejections – 35USC § 102

A favorable consideration is respectfully requested for Claims 1, 3-5, 8-10, 12, 15, 16, 19, and 20, said claims having been rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 4,678,209 to Guice. These rejections are respectfully traversed.

Applicant's die inserts and slips are used to grip pipe for such operations as, but not limited to, drilling, running and tripping tubulars, making up and breaking out tubulars, and handling tubulars around the rig area. Die inserts are used because they are less expensive to change out and a particular set of slips can be used for various size tubulars by just changing the die inserts. Traditionally die inserts had a smooth back face, which contacted the smooth face of the slip. These die inserts were bolted to the slips or were inserted in a groove or otherwise confined or attached to the slip or die inserts. The Applicant has discovered that, by adding some type of texture or depression to the back face of the die insert, the die insert will transfer load more uniformly across the surface of the die insert contacting the slip. In turn, the load on the slips is distributed more evenly; thus, substantially lowering the possibility that any parts of the die inserts, slips, or pipe handling equipment will fail due to entire loads being supported at just a few points.

Applicant respectfully submits that the Guice '209 reference is non-analogous art. The applicant claims a die insert for slips in a pipe handling apparatus. The Guice reference, being directed to a casing hanger, does not even disclose or suggest using die inserts. The die inserts in the current application are used to grip the pipe, whereas the slips themselves, not the dies, in the

Guice reference are used to grip the pipe. The purpose of using these die inserts is to make sure that the pipe is gripped in such a way that no portion of the slip contacts the pipe before another portion of the slip. Another purpose of the die insert is to be replaceable in case some of the teeth break off. For example, if the teeth, 32, in the Guice '209 patent are broken off, the entire slip has to be replaced. By using a plurality of die inserts, a die insert can be damaged and replaced by another die insert for much less time and expense. For this technology to work properly, the die inserts must all contact the pipe at the same time. In sharp contrast from the present application, the Guice reference discloses a slip without the use of die inserts. Instead, the Guice reference discloses a slip in which one face of the slip is vertical, to ensure that most or all of the teeth are in contact with the tubular (see Guice, Column 4, Lines 19-21), and the other face of the slip is tapered to slide down the tapered slip bowl while the vertical face continues its vertical orientation (see FIG. 5). The face gripping the pipe will generally remain vertical to grip all portions of the pipe at the same time. Because the back face of the slip must be tapered, it cannot be parallel to the front face of the slip.

Additionally, the Examiner argues that the faces of Guice ('209) are generally parallel as evidenced by the illustration in Fig. 2. With all due respect, the Examiner erroneously interpreted Fig. 2 of the Guice reference. Although the faces appear to be parallel in the view of Fig. 2, it cannot be determined from that top view whether the faces are parallel (meaning extending in the same direction and never converging or diverging). Only the top edges of the faces can be seen in Fig. 2 and therefore it cannot be determined whether they are parallel. In fact, they are not parallel. This can be seen in Figs. 3, 4 and 5 of the Guice reference. These figures show the length of the front and back faces and show that the faces are, in fact, not parallel (extending in the same direction and never converging or diverging). Included as Exhibit C are blown up versions of Guice's FIG. 3 and FIG. 4. We have extended the faces in both FIG. 3 and FIG. 4 (see Exhibit C, 100, 101, 102, 103, and 104) so the Board can clearly see that the lines converge. Since the lines extended from the faces converge, the faces are not parallel.

Additionally, the invention, as disclosed in the Guice reference, would not function properly if the faces were parallel because, as can be seen in FIG. 1 of the Guice reference, the slip 20 must grip the pipe in a "face-to-face engaging relationship." Guice, Column 4, lines 19-

21. In order to accomplish the slip engaging the pipe face-to-face and also sliding up and down the tapered bowl (FIG.1), the faces cannot be parallel (See FIG. 5).

In sharp contrast, each and every claim of the current application requires that the front and back faces of the die inserts be substantially **parallel**. Therefore, it is respectfully submitted that Claims 1, 3-5, 8-10, 12, 15, and 16 are patentable over the cited Guice reference and that the rejection should be withdrawn.

Claim Rejections-35 USC § 103

Reconsideration is respectfully requested for Claims 2, 6, 7, 13, and 14, said claims having been rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 4,678,209 to Guice in view of U.S. Patent No. 5,971,086 to Bee et al. Applicant respectfully traverses this rejection. The reference to Bee et al does not add anything to the Guice reference to support a rejection. Bee simply discloses adding a coating to the teeth 11, which are on the front face of the slip. There is nothing in the Bee reference which discloses roughing the back face of the die. Claims 2, 6, 7, 13, and 14 are thereby submitted to be patentable for the reasons set forth above.

8. Claims Appendix

See attached Claims Appendix.

9. Evidence Appendix

See previously submitted Evidence Appendix.

10. Related Proceedings Appendix

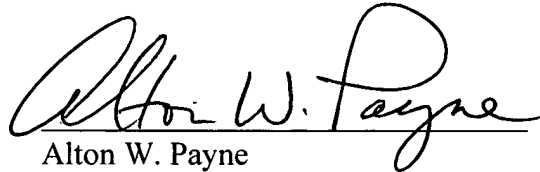
None

SUMMARY

The cited art does not disclose, teach or suggest a die insert having parallel first and second faces, wherein the first face has teeth for gripping pipe surfaces and the second face has a surface which is textured, or which contains depressions to add skid resistance between the second face of the die insert and the slip, as called for in each of Claims 1-10, 13-16, 19 and 20.

It is therefore respectfully submitted that Claims 1-10, 12-16, 19 and 20 are patentably distinct over the art of record. The Applicant courteously solicits the allowance of Claims 1-10, 12-16, 19 and 20.

Respectfully submitted,



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